

AMENDMENTS TO THE CLAIMS

The following is a complete, marked-up listing of revised claims with a status identifier in parenthesis, underlined text indicating insertions, and strike through and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1. (Currently Amended) A method of transmitting control signals in a communication network, comprising:

transmitting only control signal data related to scheduling for uplink transmission of packet data over a single control channel, the single control channel having physical structure and data arrangement therein corresponding to the control signal data transmitted on the single control channel, the physical structure of the control channel and the data arrangement in the control channel being selected based on a user transmission mode, the transmitting of the control signal data includes one of,

transmitting one or more of medium access control buffer status data, transport format data, transport block size data and redundancy data, if the transmission mode is a scheduled transmission mode,

transmitting one or more of, transport format data, transport block size data, HARQ channel ID data and an indicator indicating whether data carried on a corresponding data channel is a new packet or a re-transmission of a previous packet, if the transmission mode is a rate-controlled transmission mode, and

transmitting one or more of medium access control (MAC) buffer status data, pilot transmit power data and data related to priority of a packet in the MAC buffer, if a user is configured in a reporting mode.

2. (Original) The method of claim 1, wherein the control channel carries different control signal data based on the transmission mode.
3. (Cancelled).
4. (Currently Amended) The method of claim 1 [[3]], wherein the scheduling mode specifies what users transmit on the uplink, start times for the user and duration of uplink transmission.
5. (Cancelled).
6. (Currently Amended) The method of claim 1 [[5]], wherein the rate-controlled mode specifies an allowed data rate for a user, the user transmitting autonomously, subject to the allowed data rate.
7. (Cancelled).
8. (Currently Amended) The method of claim 1 [[7]], wherein the user transmits the control channel in the reporting mode when the user is neither scheduled for uplink transmission nor transmitting autonomously while subject to an allowed data rate for uplink transmission.

9. (Currently Amended) A single control channel for signaling control information related to scheduling a user for uplink transmission of packet data in a communication network, comprising:

at least one sub-frame adapted to carry only control information, the control information being based on the transmission mode the user is in for scheduling an uplink transmission from the user to the network, the control information being transmitted over the single control channel, a physical structure of the sub-frame and a data arrangement in the sub-frame being selected based on a user transmission mode, the sub-frame includes a plurality of slots, each slot containing a plurality of fields of control information that differs based on the transmission mode of the user and one of,

one or more of medium access control buffer status field, a transport format field, a transport block size field and a redundancy version field, if the user is configured in a scheduled transmission mode,

one or more of a transport format field, a transport block size field, a HARQ channel ID field and an indicator indicating whether data carried on a corresponding data channel is a new packet or a re-transmission of a previous packet, if the user is configured in a rate-controlled transmission mode, and

one or more of a medium access control (MAC) buffer status field, pilot transmit power field and a priority data field related to priority of a packet in the MAC buffer, if the user is configured in a reporting mode.

10-11. (Cancelled).

12. (Currently Amended) The control channel of claim 9 [[11]], wherein the scheduling mode specifies what users transmit on the uplink, start times for the user and duration of uplink transmission.

13. (Cancelled).

14. (Currently Amended) The control channel of claim 9 [[13]], wherein the rate-controlled mode specifies an allowed data rate for the user as the user transmits autonomously, subject to the allowed data rate.

15. (Cancelled).

16. (Currently Amended) The control channel of claim 9 [[15]], wherein the user transmits the control channel in the reporting mode when the user is neither scheduled for uplink transmission, nor transmitting autonomously while subject to an allowed data rate for uplink transmission.

17. (Original) The control channel of claim 9, wherein the user is in a reporting mode if there is no companion data channel on the uplink, in a rate-controlled transmission mode if there is no associated downlink transmission grant message received from a base station, and in a scheduling transmission mode if there is an associated downlink transmission grant message received from the base station.

18. (Original) The control channel of claim 9, wherein the at least one sub-frame has a 2 ms transmission time interval (TTI).

19. (Currently Amended) The control channel of claim 9 [[10]], wherein the at least one sub-frame has a transmission time interval (TTI) adapted to be changed based on a desired control channel design, and wherein the number of fields within a given slot of the sub-frame remains constant for any given TTI.

20. (Currently Amended) A method of receiving control signals in a communication network, comprising:

receiving only control signal data related to scheduling for uplink transmission of packet data over a single control channel, the single control channel having physical structure and data arrangement therein corresponding to the control signal data transmitted on the single control channel, the physical structure of the control channel and the data arrangement in the control channel being selected based on a user transmission mode, the receiving of the control signal data includes one of,

receiving one or more of medium access control buffer status data, transport format data, transport block size data and redundancy data, if the transmission mode is a scheduled transmission mode,

receiving one or more of, transport format data, transport block size data, HARQ channel ID data and an indicator indicating whether data carried on a corresponding data channel is a new packet or a re-transmission of a previous packet, if the transmission mode is a rate-controlled transmission mode, and

receiving one or more of medium access control (MAC) buffer status data, pilot transmit power data and data related to priority of a packet in the MAC buffer, if a user is configured in a reporting mode.

21. (Previously Presented) The control channel of claim 9, wherein,

the single control channel is a dedicated control channel,
the at least one sub-frame includes at least one time slot, and
the physical structure for each transmission mode includes a number of bits,
the number of bits being the same for each transmission mode.

*** END CLAIM LISTING ***